

REMARKS

Claims 16 and 18 have been canceled. Claims 1 - 15, 17 and 19 and new Claim 20 are active in the case. Claims 5 - 19 stand withdrawn from consideration. Reconsideration is respectfully requested.

The present invention relates to a precipitated silica.

Specification Amendments

The text of the specification at page 12 has been amended in order to make a spelling correction to the text. Entry of the amendment is respectfully requested.

Claim Amendments

The claims have been amended in order to place the structure of the claims into proper language format. New Claim 20 is supported by Claim 1 and the disclosure at page 4, line 10 of the text. None of the changes in language raise issues of new matter. Entry of the amendments is respectfully requested.

Claim Objections

The objections to Claims 1 - 4 have been obviated by the amendments made to the claims. Withdrawal of the objections is respectfully requested.

Priority

Applicants do not concur with the Examiner's assessment of the status of the foreign priority of the present application as failing to comply with the requirements of 35 USC 119. Both the Official Filing receipt and the declaration that has been filed correctly indicate the filing of two German priority applications identified as 102 35 559.2 filed August 3, 2002

and 103 30 118.6 filed July 4, 2003. Within one year of the filing of the first priority German application, the international application identified as PCT/EP03/08235 was filed on July 25, 2003, which is the effective filing date of the present U.S. application. Accordingly, the present application fully complies with the requirements of 25 USC 119 and 36 USC 120. Withdrawal of the objections to the priority of the application is respectfully requested.

Claim Rejection, 35 USC 102

Claims 1-4 stand rejected based on 35 USC 103(a) as obvious over Uhrlandt et al, U.S. Patent 6,180,076. This ground of rejection is respectfully traversed.

The Uhrlandt et al patent discloses a precipitated silica that is especially useful as a filler for the rubber material employed in rubber tire construction. The silica of the patent is characterized by having a BET surface area of 120 - 300 m²/g, a CTAB surface area of 100 - 300 m²/g , a DBP index of 150 - 300 g/100 g and a Sears No. 6 - 25 ml. However, the precipitated silica of the present invention differs in property parameters by having a BET surface area of 200 - 300 m²/g, a CTAB surface area of ≥ 170 - 300 m²/g , a DBP index of 200 - 300 g/100 g and a Sears No. 23 - 35 ml. Despite overlap in several of the numerical ranges of the property parameters common to both precipitated silicas, the subject matter claimed in the present invention is not identical to that of the patent. This is important from the view point that the precipitated silica as presently claimed has been found to be exceptionally useful as a filler in compounded rubber that is used in the manufacture of tires that are used at high speeds and on trucks. Although the '076 patent discloses the use of the precipitated silica described in the patent as a filler in the compounded rubber used to prepare "tires," the teaching of use is only in the context of conventional tires. Given the disclosure of Uhrlandt et al, applicants submit that one of skill in the art would not have been led to the

specific precipitated silica of the present invention with the expectation of achieving tires of improved or enhanced properties for high speed applications and for trucks.

The table immediately below shows the differences between the precipitated silica of the patent and the precipitated silica claimed in the present invention.

	<u>Uhr</u> '076 Claim 1	E1	E2	E3	E4	E5	Invention Claim 1
BET [m ² /g]	120 - 300	127	141	171	185	218	200 -300
CTAB [m ² /g]	100 - 300	120	121	139	163	186	≥ 170
BET/ CTAB	0.8 - 1.3						
Sears No. [ml]	6 - 25	10.5	7.5	17.6	17.0	21.6	23 -35
DBP [g/100g]	150 - 300	252	288	275	269	299	200 - 300

It is clear from the data in the table that none of the examples of Uhrlandt et al exhibit a Sears number as claimed in the present invention. Moreover, Examples 4 and 5 exhibit lower BET values and lower CTAB values.

Applicants emphasize that nothing in Uhrlandt et al patent would lead one of skill in the art to choose a precipitated silica as a filler for a compound rubber mixture that has high surface areas and Sears number as now claimed, and that such are suitable for the tires of trucks and as tires that are subjected to high speeds. There is no disclosure in Uhrlandt et al that would suggest a modified silica as a filler for rubber tires that are subjected to high speeds and in tires for trucks.

Applicants also submit a declaration (37 CFR 1.132) which contains data obtained from two examples identified as Example 5 of the present invention and an Example 4 of the Uhrlandt et al patent. EP 0901986 is the European equivalent to the Uhrlandt et al patent. The preparation of a precipitated silica of the present invention is described in Example 5 of the declaration, while information of the silica of Example 4 of Uhrlandt et al is provided in the declaration. The silicas were mixed into tire rubber formulations as mentioned and the table

in the declaration shows the results of rubber-technical tests. Of noteworthy significance are the dynamic modulus tests at 0° C and 60° C. The rubber product of the present invention (Example 5) are increased over the dynamic modulus results of the comparative rubber formulation of Uhrlandt et al. The higher rigidities of the present rubber are especially important for high speed passenger vehicles and motor cycle tires, as they are evidence of improved traction under dry conditions and higher cornering stability. The higher CTAB values of the present precipitated silica lead to reduced attrition, but maintains the rolling resistance of the tire product comparable to that which is prepared from the precipitated silica of Example 4 of Uhrlandt et al. This effect was unexpected, because one of skill in the art would expect that upon an increase in the CTAB values, an increase in rolling resistance would be observed. This unfavorable effect, however, has not been observed using the precipitated silica of the present invention. In spite of the silica with higher CTAB surface area of the silica of the present invention, the $\tan \delta$ (60° C) values are, favorably, almost unchanged in comparison to the silica of Example 4 of the EP '986 reference. The improvement in road abrasion can also be achieved when the high surface area silicas of the present invention are used in natural rubber mixtures, such as those used in truck tire tread mixtures. In particular, in combination with a high surface area, high structure carbon black such as N 121, having excellent road abrasion resistance, can be achieved in truck tires. Especially in this area of improvement in the cut and chip and chunking behavior is of substantial interest and can be implemented by use of the high surface area silicas of the present invention. Accordingly, in view of the comments above, it is believed that the obviousness ground of rejection has been overcome and withdrawal of the rejection is therefore respectfully requested.

Applicants submit that the discussion above establishes the patentability of the elected product claims of the present invention over the disclosure of Uhrlandt et al. Accordingly,

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upon allowance of the product claims, rejoinder of the process claims is respectfully requested.

Obviousness-type Double Patenting Rejection

Claims 1-4 stand rejected on the grounds obviousness-type double patenting over Claims 1-4 of application Serial No. 10/523,029 and Claims 2, 6 and 7 of application Serial No. 10/516,308. This ground of rejection is believed overcome by the filing of the attached terminal disclaimer which identifies the two copending applications. Withdrawal of the provisional rejections is respectfully requested.

It is believed that the application is in proper condition for allowance. Early notice to this effect is earnestly solicited.


Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Customer Number

22850

Tel: (703) 413-3000
Fax: (703) 413-2220



Frederick D. Vastine
Registration No. 27,013